

WHAT IS CLAIMED IS:

- 1 1. A vehicle seat having a folding mechanism, the
- 2 vehicle seat being both fixable and slidable forward and
- 3 backward relative to the vehicle, the vehicle seat
- 4 comprising:
 - 5 locking means for allowing or preventing seat sliding
 - 6 when unlocked or locked respectively;
 - 7 a wire joined to the locking means at one end thereof,
 - 8 the wire unlocking or locking the locking means when
 - 9 pulled or at rest respectively;
 - 10 a base member disposed above the locking means;
 - 11 a first actuating member, supported to be rotatable in
 - 12 a first direction and a second direction on the base
 - 13 member;
 - 14 a second actuating member, rotatably supported on
 - 15 the base member coaxially with the first actuating member
 - 16 and joined to another end of the wire, the second actuating
 - 17 member allowing the wire to be at rest when in a first
 - 18 position and pulling the wire when rotated by the first
 - 19 actuating member to be in a second position when the first
 - 20 actuating member is rotated in the second direction;
 - 21 first urging means for urging the first actuating
 - 22 member in the second direction, disposed between the first
 - 23 actuating member and the second actuating member;
 - 24 second urging means for urging the second actuating
 - 25 member in the first direction, disposed between the base
 - 26 member and the second actuating member;
 - 27 an upper member rotatably supported on the base
 - 28 member; and
 - 29 an engaging projection member rotating integrally
 - 30 with the upper member, the engaging projection member
 - 31 contactable with the first actuating member to rotate the
 - 32 first actuating member in the first direction or the second
 - 33 direction.

1 2. The vehicle seat having a folding mechanism as
2 claimed in claim 1, wherein the engaging projection
3 member describes a rotation arc when the upper member
4 rotates on the base member, the first actuating member
5 lying within the rotation arc, the first actuating member
6 being rotated as a single body with the second actuating
7 member when the engaging projection member rotates to
8 push the first actuating member in the second direction,
9 the first actuating member being rotated individually when
10 the engaging projection member rotates to push the first
11 actuating member in the first direction.

1 3. The vehicle seat having a folding mechanism as
2 claimed in claim 1, wherein the engaging projection
3 member describes a rotation arc when the upper member
4 rotates on the base member, the first actuating member
5 comprising a pair of surfaces which lie within the rotation
6 arc, the first actuating member being rotated in the first
7 direction when the engaging projection member rotates to
8 push on one of the surfaces and rotated in the second
9 direction when the engaging projection member rotates to
10 push on the other surface.

1 4. The vehicle seat having a folding mechanism as
2 claimed in claim 1, wherein the second actuating member
3 comprises a stopper portion abutable against the first
4 actuating member, the first actuating member being urged
5 to abut against the stopper portion by the first urging
6 means, the second actuating member being rotated by the
7 first actuating member to be in the second position when
8 the first actuating member is rotated in the second
9 direction.

1 5. The vehicle seat having a folding mechanism as
2 claimed in claim 4, wherein the first actuating member

3 comprises a projection portion which abuts against the
4 stopper portion of the second actuating member.

1 6. The vehicle seat having a folding mechanism as
2 claimed in claim 1, further comprising maintaining means
3 for maintaining the first actuating member rotated in the
4 second direction by the engaging projection member, by
5 maintaining the upper member at a predetermined angle
6 position relative to the base member.

1 7. The vehicle seat having a folding mechanism as
2 claimed in claim 6, wherein the engaging projection
3 member contacts with the first actuating member and
4 rotates the first actuating member in the second direction
5 within a predetermined angle range which includes the
6 predetermined angle position at which the upper member is
7 maintained by the maintaining means, and the engaging
8 projection member is out of contact with the first actuating
9 member when the upper member is rotated to a
10 substantially horizontal position.

1 8. The vehicle seat having a folding mechanism as
2 claimed in claim 1, further comprising a stopper disk
3 rotating coaxially and integrally with the upper member,
4 and disk stop means for stopping rotation of the stopper
5 disk, the upper member being maintained at a
6 predetermined angle position relative to the base member
7 and the engaging projection member maintaining the first
8 actuating member rotated in the second direction when the
9 disk stop means engages the stopper disk.

1 9. The vehicle seat having a folding mechanism as
2 claimed in claim 8, wherein the disk stop means comprises
3 a stopper lever which is axially supported to be rotatable
4 on the base member, the stopper lever existing in one of a

5 position where engagement is possible or a position where
6 engagement is not possible with the stopper disk, the
7 stopper lever being urged to be in the position where
8 engagement is possible with the stopper disk.

1 10. The vehicle seat having a folding mechanism as
2 claimed in claim 6, wherein the first actuating member and
3 the second actuating member are disposed on one side of
4 the base member, and the maintaining means is disposed
5 on another side of the base member.

1 11. The vehicle seat having a folding mechanism as
2 claimed in claim 6, further comprising one reclining
3 apparatus on one side of the vehicle seat and another
4 reclining apparatus on another side of the vehicle seat, the
5 engaging projection member, the first actuating member,
6 and the second actuating member being disposed on one
7 reclining apparatus, the maintaining means being disposed
8 on the other reclining apparatus.

1 12. The vehicle seat having a folding mechanism as
2 claimed in claim 1, wherein the engaging projection
3 member is axially supported on the base member coaxially
4 with the upper member.

1 13. The vehicle seat having a folding mechanism as
2 claimed in claim 12, wherein the engaging projection
3 member comprises a pin member contacting with the first
4 actuating member when the engaging projection member is
5 rotated to push on the first actuating member.

1 14. The vehicle seat having a folding mechanism as
2 claimed in claim 1, wherein the engaging projection
3 member is formed integrally with the upper member.

1 15. A vehicle seat having a folding mechanism, the vehicle
2 seat being both fixable and slidable forward and backward
3 relative to the vehicle, the vehicle seat comprising:
4 locking means for allowing or preventing seat sliding
5 when unlocked or locked respectively;
6 a wire joined to the locking means at one end thereof,
7 the wire unlocking or locking the locking means when
8 pulled or at rest respectively;
9 a base member disposed above the locking means;
10 bottom actuating means for pulling the wire, rotatably
11 supported on the base member and joined to another end
12 of the wire, the bottom actuating means allowing the wire
13 to be at rest when in a first position and pulling the wire
14 when in a second position;
15 top actuating means for rotating the bottom actuating
16 means from the first position to the second position,
17 rotatably supported on the base member coaxially with the
18 bottom actuating means;
19 an upper member rotatably supported on the base
20 member; and
21 an engaging projection member rotating integrally
22 with the upper member, the engaging projection member
23 being in one of a first area, a second area, a third area,
24 and a fourth area,
25 in the first area, the engaging projection member not
26 contacting the top actuating means and the upper member
27 being in a backward folding direction where it is possible to
28 rotate the top actuating means in a second direction when
29 the upper member is rotated in a forward folding direction,
30 in the second area, the engaging projection member
31 pushing and rotating the top actuating means in the second
32 direction and thereby causing the bottom actuating means
33 to be in the second position,
34 in the third area, the engaging projection member not
35 contacting the top actuating means and the upper member
36 being in a forward folding direction where it is possible to

37 rotate the top actuating means in a first direction when the
38 upper member is rotated in a backward folding direction,
39 in the fourth area, the engaging projection member
40 pushing and rotating the top actuating means in the first
41 direction.

1 16. The vehicle seat having a folding mechanism as
2 claimed in claim 15, wherein the bottom actuating means
3 comprises a stopper portion, the bottom actuating means
4 being integrally rotated in the second direction when the
5 top actuating means rotates in the second direction against
6 the stopper portion.

1 17. The vehicle seat having a folding mechanism as
2 claimed in claim 15, further comprising urging means for
3 urging the top actuating means to rotate in the second
4 direction to rest on the stopper portion and for urging the
5 bottom actuating means to be rotated in the first direction.

1 18. The vehicle seat having a folding mechanism as
2 claimed in claim 15, further comprising a stopper disk
3 rotating coaxially and integrally with the upper member,
4 and a stopper lever which is engageable with the stopper
5 disk, forward inclination of the stopper disk being stopped
6 by engagement of the stopper lever therewith at a position
7 to maintain the engaging projection member in the second
8 area.

1 19. The vehicle seat having a folding mechanism as
2 claimed in claim 18, wherein the engaging projection
3 member, the bottom actuating means, and the top
4 actuating means are on an outer side of the base member,
5 and the stopper disk and stopper lever are on one of an
6 outer side or inner side of the base member.

- 1 20. A vehicle seat comprising:
2 a seat cushion;
3 a seat back swingably connected above the seat
4 cushion;
5 a seat slide mechanism disposed between the seat
6 cushion and a floor of a vehicle; the seat slide mechanism
7 being capable of allowing the seat cushion to slide in the
8 fore-and-aft direction of the vehicle; and
9 a lock mechanism putting the seat slide mechanism in
10 a release state of allowing sliding movement of the seat
11 cushion when the seat back is folded forward at a first
12 angle within a first angle range, the lock mechanism
13 putting the seat slide mechanism in a lock state of
14 prohibiting the sliding movement of the seat cushion when
15 the seat back is folded forward at a second angle within a
16 second angle range greater than the first angle range
17 relative to the seat back before folding forward.